

Abstract.

A wireless local area network is provided that uses impulse radio technology to improve communications between a mobile node and access point. In one embodiment of the present invention, a wireless network, a mobile node and a method are provided that use the communication capabilities of impulse radio technology to overcome the problematical "dead zones" and "multipath interference" associated with a traditional wireless LAN. In another embodiment of the present invention, a wireless network, a mobile node and a method are provided that have an improved roaming scheme due to the use of the positioning and tracking capabilities of impulse radio technology. These embodiments and several other embodiments of the present invention are described herein.

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